Manitoba Health Research Council

ANNUAL REPORT 2002-2003

104-00134/

[redacted]

MISSION STATEMENT

To promote the growth and co-ordination of the health research enterprise in Manitoba

[redacted]

Cover photo *— Plaque presented to MHRC by the Province of Manitoba on the occasion of the 20th anniversary of its establishment. The plaque, presented by the Hon. Tim Sale, Minister of Energy, Science & Technology, recognizes the efforts MHRC has made to "enhancing health research in Manitoba".*

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TABLE OF CONTENTS

Members of MHRC Council 1
Dr. Jane Evans Appointed Chair of Council 2
Report of the Chair 3
Two New Members Appointed to Council 5
MHRC 20th Anniversary Celebration 7
Recipients of MHRC Scholarship Awards & Establishment Grants 1983-2002 9
MHRC Supported Researchers Receive Prestigious Awards 10
Dr. Darren Freed 2003 Recipient of Prowse Award 13
Graduate Students Take Research Overseas 14
Noteworthy Achievements by MHRC Awardees 16
Three Former Chairs of Council Honoured 18

GRANTS & AWARDS PROGRAMS
Purpose & Overview of Programs 20

GRANTS
New Establishment Grants 22
Establishment Grant Renewals 22
New Operating Grants 23
Operating Grant Renewals 24
Regional Partnership Grants 25
Regional Partnership Salary Awards 26

PERSONNEL AWARDS
New Postdoctoral Fellowship Awards 26
Postdoctoral Fellowship Renewals 27
New Graduate Studentship Awards 27
Graduate Studentship Renewals 29

REVIEW COMMITTEES
Operating & Establishment Scientific Review Committee 31
Personnel Scientific Review Committee 32
Social/Population Health Scientific Review Committee 33

2002-2003 FINANCIAL REPORT
2002-2003 Fiscal Overview 34
Management s Report 35
Auditor s Report 36
Financial Statements 37

MEMBERS OF THE MANITOBA HEALTH RESEARCH COUNCIL

Dr. Jane Evans ♦, Chairperson
Department of Biochemistry
& Medical Genetics
University of Manitoba

Dr. Ian C.P. Smith
Director General
Institute for Biodiagnostics
National Research Council
(to August, 2002)

Mr. Dwight Barna
Assistant Deputy Minister
Manitoba Health
(from May 2002)

Dr. Gary Beazley, Professor Emeritus
Department of Family Medicine
University of Manitoba
(from August 2002)

Dr. Patrick C. Choy ♦•, Vice-Chair
Associate Dean (Research)
Faculty of Medicine
University of Manitoba

Mr. John Clarkson
Deputy Minister
Department of Energy, Science &
Technology

Dr. Joanne Embree
Department of Medical Microbiology
University of Manitoba

Dr. Norman Fleming ♦
Associate Dean (Research)
Faculty of Dentistry
University of Manitoba

Dr. Andrew Halayko
Department of Internal Medicine
University of Manitoba

Dr. Digvir Jayas •
Associate Vice-President (Research)
University of Manitoba

Mr. Tom McCormack
Senior Policy Advisor
Department of Health
(to May 2002)

Dr. Colleen Metge ♦
Faculty of Pharmacy
University of Manitoba

Dr. Yvonne Myal
Department of Pathology
University of Manitoba

Dr. Suresh Mysore
Laboratory Director
Victoria General Hospital

♦ Members of the Executive/Finance Committee
• Appointed by the University of Manitoba

COUNCIL SECRETARIAT

Executive Director
Dr. Bruce E. McDonald

Administrative Secretary
Ms. Elizabeth C. Ford

DR. JANE EVANS APPOINTED CHAIR OF COUNCIL

The Government of Manitoba appointed Dr. Jane Evans Chair of Council to succeed Dr. Ian Smith, whose second term on Council ended August 31, 2002. Dr. Evans is the sixth person and the first female to serve in this capacity. She is currently Professor and Head of the Department of Biochemistry and Medical Genetics with cross-appointments in Pediatrics and Child Health, and Community Health Sciences at the University of Manitoba. Dr. Evans also is on staff at the Health Sciences Centre where she is closely involved with the Manitoba Maternal Serum Screening Program and where she participates as a consultant in the medical genetics service.

Dr. Evans currently serves on the CIHR Institute of Genetics Planning and Priorities committees for Clinical Genetics research and for research in the areas of Ethics, Law and Society. Earlier, she served as chair of the MRC Genetics panel and was guest chair of the CIHR panel on Health Ethics, Law and Humanities. Dr. Evans has been a consultant to Manitoba Health in the area of congenital malformation surveillance and is currently a member of the Canadian Perinatal Surveillance System Steering Committee, the Infant and Fetal Health Study Group, and the Canadian Congenital Anomalies Surveillance Network Steering Committee. Her research interests include phenotypic and epidemiological analysis of multiple congenital anomalies, especially those involving limb and renal defects, and genetic perinatal diagnosis and screening. In addition, to her research, her administrative duties and her professional service, she is active in undergraduate and postgraduate education in medicine and science.

Dr. Evans received a PhD from the University of Leicester in 1975 and after post-doctoral training joined the Faculty of Medicine at the University of Manitoba in 1979. She became a fellow of the Canadian College of Medical Geneticists in 1983 and served as its President from 1998 to 2000.

REPORT OF THE CHAIRPERSON

It is an honour to have been appointed Chair of the Manitoba Health Research Council by the Province; replacing Dr. Ian Smith, who completed two terms on Council, four years of which he served as Chair. I am especially honoured to be the first woman appointed Chair of Council and to be numbered with the five past chairpersons who provided Council with outstanding direction over its first 20 years.

It is a pleasure to report on the activities of Council during the past year. Council celebrated the 20th anniversary of its establishment with a symposium and reception November 14, 2002 (the latter is described in a separate section in this report). The celebration was an unqualified success; an event with which I was very proud to be associated. I was extremely pleased to accept, on behalf of Council, a plaque from the Province in recognition of the contribution MHRC has made to health research in Manitoba over the past 20 years. It was very gratifying for those of us who have worked with Council over the years to experience this acknowledgement of the important role MHRC has played in basic, clinical and applied health research in Manitoba. Another delightful task for me was the presentation of 20th Anniversary Commemorative Certificates to recipients of MHRC Scholarships and Establishment Grants. These awards, which are made to newly recruited faculty members who show exceptional promise, have not only played a key role in helping them establish research programs, but has been an important factor in helping Manitoba retain their service. Fifty-eight of the 67 individuals (86 percent) who were awarded scholarships and establishment grants still reside and work in Manitoba. Equally impressive is the fact that two-thirds of them have served on at least one of Council's review committees. It has been my experience that individuals who receive support and encouragement generously return that investment.

A major change during the past year, which has important implications for MHRC, was the establishment by the Government of the Department of Energy, Science and Technology, and the consolidation of the planning, administration and funding of research activities in the Department. Bruce McDonald, the Executive Director of MHRC, and I met with the Honourable Tim Sale, on his appointment as Minister of the Department, to acquaint him with Council's programs and activities and to share Council's vision of a new mandate for MHRC in light of the changes within Government. At the Minister's request, Council organized an informal meeting designed to share issues and ideas between the Minister and all members of Council. The members of Council appreciated the candid discussion that ensued and the opportunity to share their vision of health research in Manitoba and the role MHRC can play in this effort.

Council has been reviewing the role MHRC and Provincial funding should play in the current health research environment for a number of years. The reorganization and consolidation of health research funding at the Federal level, with the establishment of the Canadian Institutes of Health Research, and the increased funding that accompanied this change, has raised questions with respect to the Province's responsibility in this field. Adding to the conundrum for Manitoba, is the significant provincial support to health research in the larger provinces; notably Alberta and Quebec and, more recently, British Columbia with the establishment of the Michael Smith Foundation for Health Research,

and Ontario with its launch of the Ontario Cancer Research Network. Researchers affiliated with the universities in these provinces often enjoy appreciably greater success than researchers in Manitoba in national competitions (vis., CIHR operating grants, CFI awards, etc.). Manitoba's investigators, to their credit, generally perform exceptional well compared to their counterparts in the other small provinces with medical schools, but they continue to rank below the national average in terms of the percent of successful applications and total funds awarded Manitoba researchers on a per capita basis. There is a critical need for additional funding to health research in Manitoba but there is an equally critical need to decide where the Province should put its research dollars and the role MHRC should play in this process. To this end, MHRC continued to discuss a proposed reorganization and refocus of Council with the Province during the past year. As mentioned above, a proposed new "role definition", which would broaden Council 's mandate with respect to health research in the Province, was presented to the Honourable Tim Sale during the past year. It is anticipated that discussion on this proposal will continue in the current year.

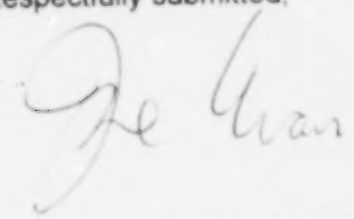
The grants and awards programs continue to be the cornerstone of MHRC's contribution to health research in the Province. The quality and integrity of these programs depend very largely on the tremendous number of volunteer hours that members of the review committees contribute to the peer review process. I had the privilege of chairing the Personnel Review Committee a number of years ago and I know first hand how much effort goes into deciding who will receive MHRC support given the limited funds available and the exceptionally high quality of the applications. Council is extremely grateful to the members of the review committees for their help with this task. Members of Council continue to be amazed at how few individuals decline our invitation to serve on one of the review committees. We are also grateful to the legion of out-of-province researchers who help with this process. They provide an external assessment of the quality of the applications submitted to MHRC. We continue to be frustrated by the number of highly qualified applicants MHRC is unable to support. For the second year in a row, only applicants ranked in the excellent category were awarded grants and awards.

Council was pleased to welcome two new members during the past year. Dr. Gary Beazley was appointed by the Province to replace Dr. Ian Smith, who completed two terms on Council and Mr. Dwight Barna was appointed to replace Mr. Tom McCormack, who resigned his position with Manitoba Health. I would like to thank Dr. Smith for his distinguished and enthusiastic leadership during his four years as Chair of Council. I also want to thank Mr. McCormack for his outstanding contribution during the five years he served on Council. I also want to congratulate Dr. Colleen Metge and Dr. Norm Fleming on being appointed to a second term on Council; Council welcomes their commitment and wise counsel.

As Dr. Ian Smith noted in his report last year *"The health care system has come under intense scrutiny the past few years. Of particular concern is the rapidly escalating cost of healthcare. Tremendous advances in diagnoses and treatment are announced daily. Sound scientific research is necessary to guarantee the continued evolution of these advances. In this era of rapid advances in technology and an apparent insatiable demand for their introduction, a vibrant research community is crucial to decision on which technologies to adopt and when to introduce them."* I concur fully with these comments.

MHRC has played a key role in health research over the past two decades and I am convinced it can and should play an even greater role in the future. I look forward, with my colleagues on Council, to leading MHRC in a new and expanded mandate in health research in Manitoba.

Respectfully submitted,



Jane A. Evans PhD, FCCMG
Chairperson

TWO NEW MEMBERS APPOINTED TO COUNCIL

MHRC is governed by a 12-member Council; two are named by the University of Manitoba and the other ten are appointed by the Government. Members of Council are initially appointed for a three-year term and are eligible for appointment to a second term. Dr. Gary Beazley was appointed by the Province to replace Dr. Ian Smith, who completed his second three-year term on Council during the year. Mr. Dwight Barna was appointed to replace Mr. Tom McCormack, who resigned his position as Senior Policy Advisor, Manitoba Health to accept a position as Director, Corporate Services, Health Sciences Centre. The Government also appointed Dr. Jane Evans, Dr. Norm Fleming and Dr. Colleen Metge to second three-year terms on Council.

Council is extremely pleased to have Drs. Evans, Fleming and Metge reappointed and to have replacements of the calibre and experience of Dr. Beazley and Mr. Barna appointed to Council at a time when it is looking to reorganize MHRC and refocus its mission.

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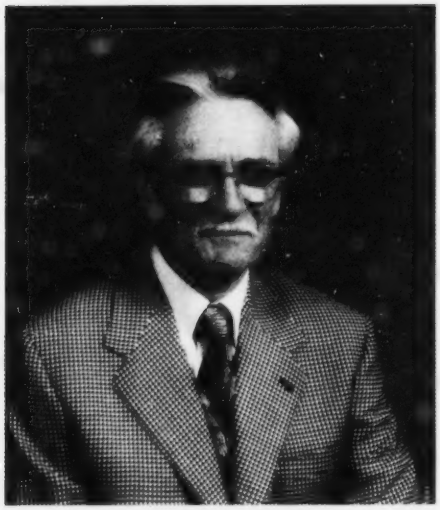
Dr. Gary Beazley



Dr. Beazley received a MD from the University of Manitoba in 1961, following which he completed an internship at St. Boniface General Hospital. From 1962 to 1972, he was a family physician in an active group practice in Transcona; he retired from personal family practice in January, 1998. He joined the Faculty of Medicine at the University of Manitoba in 1972 as Director of Family Practice Residency Training, a position he held until 1980 when he was appointed Acting Head of Family Medicine. Dr. Beazley served as Head of Family Medicine from 1981 to 1991 and as Director of Undergraduate Education in the Department from 1992 to 1998. He was appointed Professor Emeritus in the Faculty of Medicine in 1999.

Dr. Beazley was made a Certificant in the College of Family Physicians in Canada in 1971 and a Fellow of the College in 1981. He was President of Manitoba Chapter in 1974-75. Dr. Beazley received the Manitoba Family Physician of the Year Award in 1991. The University of Manitoba also recognized his outstanding professional service by presenting him with a U of M Outreach Award in 1991. In 1998 he was the recipient of the Manitoba Medical Association Administrative Award.

Since 1999 Dr. Beazley has served as a consultant with Manitoba Health in Workforce Planning and Primary Health Care and plays a role in recommending policy directed towards retention of rural physicians and primary health care reform. He has recently been appointed to the position of Chairperson of Medical Review Panels under the Workers Compensation Act.

Mr. Dwight Barna

Dwight Barna is the Assistant Deputy Minister of Health Accountability, Policy and Planning in the Department of Health. His responsibilities include: Health Policy and Planning, including strategic planning; Information Technology; Health Data Management and Accountability and Monitoring of the Health System. Mr. Barna joined Manitoba Health in September 1999 as the Director of Finance. In January 2000, he was appointed Assistant Deputy Minister of Internal Programs and Operations in the Department and in February 2002, during a reorganization of the Manitoba Health, he was appointed to his present position.

Mr. Barna holds a Bachelor of Commerce (Honours) degree from Carlton University and several administrative and financial diplomas. He has had extensive training at the executive management level and has chaired numerous senior management committees, including those involved with organizational structuring and change management. He brings an extensive background to Council from his years in the Federal Public Service and more recently the Provincial Civil Service. He retired from the Royal Canadian Mounted Police after 32 years service of which the last 20 were dedicated to Financial Management at the senior management level. Dwight comments that he has had "the good fortune of experiencing Canada by living on both coasts and northern and central Canada during my tenure in the Federal Public Service".

MHRC 20th Anniversary Celebration

The Manitoba Health Research Council commemorated the 20th anniversary of the establishment of MHRC with a symposium and reception November 14, 2002. MHRC joined forces with CancerCare Manitoba and the Manitoba Institute of Cell Biology in a co-sponsored *"research day"* on the Bannatyne Campus. When it was realized that CancerCare and Cell Biology had scheduled The Dr. Jacob Hollenberg Lectureship in Biomedical Sciences for the same day as the MHRC Symposium & Reception, the obvious solution was to work together on a combined program. Dr. Donald Coffey, a distinguished cancer researcher at John Hopkins University School of Medicine in Baltimore, gave the inaugural Hollenberg Lecture in the morning session, which was followed by a lunch co-hosted by MHRC and CancerCare and, in turn, the MHRC Symposium in the afternoon session. A highlight of the opening ceremonies proceeding the Hollenberg Lecture was the presentation by The Honourable Tim Sale, Minister of Energy, Science and Technology of a plaque to MHRC, on the occasion of its 20th anniversary, *"In recognition of its efforts enhancing health research in Manitoba"*. Dr. Jane Evans, Chairperson of Council, received the plaque on behalf of MHRC. The plaque is displayed outside the Council Office,

The MHRC Symposium featured presentation by three investigators, whose research has been supported by MHRC, and three graduate students or post-doctoral fellows supported by MHRC at the time of the Symposium. The leadoff speaker was Dr. Keith Fowke, an Assistant Professor in the Department of Medical Microbiology, whose research is focused on defining the cellular immune mechanism of HIV resistance. Keith was awarded a MHRC Establishment Grant in the 2000 competition. Dr. Brian Cox, an Associate Professor in the Department of Psychiatry, was the second speaker. Dr. Cox was awarded a $9,500 MHRC operating grant in 1995, an award that helped launch his research career. In 2002, Brian was awarded a $500,000 Canada Research Chair in Mood and Anxiety Disorders. The third speaker among the investigator group was Dr. David Eisenstat. (ED. NOTE: *Dr. Eisenstat was featured in the 2001-2002 Annual Report)*. Dr. Eisenstat, who is an Assistant Professor in the Department of Pediatrics & Child Health, the Director of Neuro-Oncology at CancerCare Manitoba, and a Senior Investigator in the Manitoba Institute of Cell Biology, was the recipient of both an operating and an establishment grant from MHRC. The graduate student and postdoctoral fellows who rounded out the program included Patrick Frosk (*also featured in the 2001-2002 Ann Rpt*),

Dr. Dareen Freed, MD (*featured elsewhere in this Ann Rpt*), and Dr. Nancy McKeen, PhD. Patrick Frosk, who identified the gene for limb-girdle muscular dystrophy, was awarded a MHRC Graduate Studentship in support of his PhD program in Biochemistry and Medical Genetics. Dr. Freed, who is a Resident in the Department of Surgery, also completed the requirements for a PhD in Physiology at the Institute of Cardiovascular Sciences, St. Boniface General Hospital Research Centre. His PhD studies investigated the role of cardiotrophin-I in wound healing following myocardial infarction. Dr. Freed was supported by a MHRC Postdoctoral Fellowship. Dr. McKeen, who received a RN Diploma from St. Boniface General Hospital and a PhD in Psychology from the University of Manitoba, is a PD fellow in the Health & Aging Laboratory at the Health, Leisure and Human Performance Institute, University of Manitoba. Dr. McKeen's research is focused on the link between health and emotions in older adults and the psychological factors that may account for the link.

The Symposium, which was an excellent reflection of the quality of research and researchers supported by MHRC, was a resounding success. As the committee that organized the Symposium noted *"One of the most gratifying rewards associated with the planning and organization of the Symposium was the abundance of candidates who could have been invited to make a presentation"* .

Recipients of MHRC Scholarship Awards & Establishment Grants 1983-2003

Scholarship Awards

1983 Dr. James Davie
Dr. Steven N. Mink

1984 Dr. Janice G. Dodd
Dr. Jonathan David Geiger

1985 Dr. William Athen Anderson
Dr. John Ducas
Dr. Donald D. Smyth

1986 Dr. Luke Delange
Dr. Kent T. HayGlass
Dr. Hans Pasterkamp

1987 Dr. Leigh C. Murphy
Dr. Susan J. Shefchyk

1988 Dr. Elissavet Kardami
Dr. Shyam S. Mohaptra

1989 Dr. Judy E. Anderson
Dr. Grant McClarty
Dr. Wade T.A. Watson

1990 Dr. Daniel Gietz
Dr. Brian John Schmidt
Dr. J. Neil Simonsen

1991 Dr. Rajinder P. Bhullar
Dr. Frank J. Burczynski
Dr. Kevin M. Coombs
Dr. Janine Johnston
Dr. Barbara L. Triggs-Raine

1992 Dr. Grant M. Hatch
Dr. Avindra Nath
Dr. Laurel A. Strain

1993 Dr. Judy G. Chipperfield
Dr. Mary Lynn Duckworth
Dr. Martin J. McGavin
Dr. Fiona E. Parkinson

1994 Dr. Kuemhee C. Carriere
Dr. Ian M.C. Dixon
Dr. Linda Kristjanson
Dr. Christopher Power
Dr. Maria Vrontakis

1995 Dr. Lorrie A. Kirshenbaum

Establishment Grants

1996 Dr. Robert Brownstone
Dr. Marc R. Del Bigio
Dr. Shawn Hochman
Dr. Steven N. Pind

1997 Dr. Sabine Mai
Dr. Guangming Zhong

1998 Dr. Asad Junaid
Dr. Colleen Metge
Dr. Yvonne Myal
Dr. Peter Nickerson

1999 Dr. Francis M. Amara
Dr. Geoff Hicks
Dr. Michelle M. Porter
Dr. Xi Yang

2000 Dr. David Eisenstat
Dr. Keith R. Fowke
Dr. Spencer Bruce Gibson
Dr. Andrew John Halayko
Dr. Etienne Leygue
Dr. Nasrin Mesaeli
Dr. Hope A. Weiler

2001 Dr. Alberto Civetta
Dr. Yoshitaka Iwasaki
Dr. Aaron James Marshall
Dr. Gunnar Valdimarsson

2002 Dr. Michael Barry Mayne
Dr. David C. Merz
Dr. Abdelilah Soussi Gounni
Dr. Jeffrey T. Wigle

MHRC SUPPORTED RESEARCHERS RECEIVE PRESTIGIOUS AWARDS

Four recent recipients of MHRC establishment grants have been recognized for their outstanding promise as new and emerging researchers. Dr. Xi Yang, an Associate Professor in the Department of Medical Microbiology, was awarded a Tier 2 Canada Research Chair in Infection and Immunity October 1, 2002. Dr. Hope Weiler, an Associate Professor in the Department of Human Nutritional Sciences, was awarded a 2003 ILSI-NA Future Leader Award as well as being a 2003 recipient of an Rh Award in the area of health sciences. Dr. Lorrie Kirshenbaum, who holds a Canada Research Chair in Molecular Cardiology, also was the recipient of a 2003 Rh Award in health sciences. The Winnipeg Rh Institute Foundation awards up to six Rh Awards annually to researchers in the early stages of their research career *"who exhibit exceptional leadership and promise in their field"*. Dr. Yang was the recipient of an Rh Award in 2001.

Dr. Yvonne Myal, who is a member of Council, was the recipient of the 2003 Ken Hughes Young Investigator Award for Medical Research. Dr. Myal also was awarded the 2003 MMSF Basic Science Career Development Research Award. Dr. Kirshenbaum was the 2002 and first recipient of the Ken Hughes Award. [ED. NOTE — Dr. Kirshenbaum was featured in the 2000-2001 and Dr. Myal in the 2001-2002 Ann. Rpt.]

Dr. Xi Yang, who was awarded a MHRC establishment grant in 1999, holds an academic appointment in Medical Microbiology, as well as Immunology, and is a member of the program team for the National Training Program in Allergy and Asthma. A medical doctor trained in both immunology and infectious diseases, Dr. Yang' s research focuses on the cellular and molecular basis of immune response to allergens and infectious agents. His research stems not only from his background training but the observation that allergic diseases are more prevalent in developed than developing countries and among urban dwellers than rural populations. The "hygiene hypothesis" is currently the most popular explanation accounting for the marked increase in the incidence of allergies and asthma over the past 30 years. Also supporting the hypothesis is the observation that atopic allergies (hereditary allergies produced by exposure to specific antigens) have increased as infectious diseases of childhood have decreased. Dr. Yang's studies on the inverse relationship between bacterial infections and allergic diseases will test the feasibility of using vaccines from intracellular bacterial infections to inhibit atropic allergies. There is already some support for this approach; the BCG-TB vaccine has been found to not only prevent tuberculosis in the mouse model but also suppress allergic response. Another area of Dr. Yang's research is Chlamydia immunobiology. His ultimate goal is to develop a vaccine that will provided immunity to Chlamydia and similar pathogens while identifying the various forms of host response in generating protective immunity. In addition to his research, Dr. Yang takes an active role in graduate student education and training. In 2002 he was the recipient of the Graduate Students' Teaching Award. He currently coordinates the graduate program in Medical Microbiology, a program that has doubled to over 50 Master's and PhD students over the past 3 years with nearly half of them working at the National

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Microbiology Laboratory. He also oversees the keystone course in the National Training Program in Allergy and Asthma. Dr. Yang served on the MHRC Personnel Review Committee for three years, 2000 to 2002, and has been a member of the CIHR Panel on Immunology/transplantation since 1999. In addition to the Canada Research Chair and the MHRC establishment grant, Dr. Yang was awarded a Canadian Foundation for Innovation (CFI) award and operating grants from CIHR on his research. He also was awarded a MRC Scholarship in 1997, ranking fifth among all applicants nationally, and he was an Rh Award recipient in 2001.

Dr. Xi Yang and graduate student **Laura Bilenki** *(see p. 16)*

Dr. Hope Weiler was awarded a MHRC establishment grant in the March 2000 competition. In addition to her position in Human Nutritional Sciences, Dr. Weiler holds a cross-appointment in Pediatrics and Child Health. She was awarded the 2003 ILSI-NA (International Life Sciences Institute ó North America) Future Leader Award not only on the basis of her outstanding research program but her contribution to nutrition and dietetics at the University of Manitoba and her service to her Department, the University and her profession. The ILSI-NA Future Leader Award is awarded to North Americans who received their doctoral degree within the past 7 years, hold a tenure track position and "show potential for future scientific leadership in nutrition, nutrition and toxicology, or nutrition and food science" . Dr. Weiler s research program, which combines basic

and clinical research, is focused on the effect of nutrition on the growth and development of infants at extreme risk, in particular the pre-term infant. In addition to research with pre-term infants, Dr. Weiler uses the piglet and neonatal rat, as models for infant nutrition studies. Her research program has made significant contributions to the understanding of the role of long chain fatty acids in prostaglandin metabolism and their relationship to bone formation and growth of the neonate. Besides her own research program, she is actively involved in cooperative projects with several colleagues and groups at the University of Manitoba. Dr. Weiler is active in the Manitoba Association of Registered Dietitians, Dietitians of Canada, the Canadian Society of Nutritional Sciences, the American Society for Nutritional Sciences, and the American Society for Clinical Nutrition. She is a frequent participant in national and international symposia and workshops. In 2002 she organized and chaired a symposium on the "Role of Dietary Fat and Bone Health" at the Experimental Biology meetings in New Orleans. Dr. Weiler was the recipient of a CIHR New Investigator Award in 2000.

Dr. Yvonne Myal was appointed to Council in 2001. Dr. Myal is an Associate Professor in the Department of Pathology with a cross appointment in Physiology. In addition, she is the Director of the Molecular Diagnostic Pathology Laboratory at the Health Sciences Centre. Dr. Myal is the 2003 recipient of the Ken Hughes Young Investigator Award . The Award was established by the Faculty of Medicine in 2002 to *recognize young scientists* (within seven years of their first appointment) *deemed to be making an outstanding contribution to biomedical research* . **Dr. Lorrie Kirshenbaum**, who holds a Canada Research Chair and is a 2003 Rh Award recipient in health sciences, was the first young scientist to receive the Ken Hughes Award. Dr. Myal also received the 2003 Manitoba Medical Services Foundation Basic Science Career Development Research Award . The award goes to a young scientist who has *an excellent track-record of receiving grants from national granting agencies, such as the CIHR* and who has *a demonstrated potential or an established national international reputation in basic medical sciences research* . The Award contributes $50,000 annually, for three years, to the salary of the successful candidate. Included with the salary award was a $20,000 grant-in-aid during the first year of the award. Dr. Myal was awarded MHRC establishment and operating grants in 1998.

Dr. Darren Freed 2003 Recipient of S.W. Prowse Award

Dr. Darren Freed, MD, was presented the 2003 S.W. Prowse Memorial Award during the Faculty of Medicine s Canadian Student Health Research Forum May 14, 2003. The Prowse Award recognizes *excellence in clinical research* and is open to residents and fellows in the clinical departments of the Faculty of Medicine, University of Manitoba. Applications are considered strictly *on the basis of new research* . The Award to Dr. Freed was for his research into the use of very small heart valve prostheses in Manitoba. Very small heart valve prostheses greatly reduce the amount of re-constructive surgery required with heart valve replacement but the clinical literature suggested that these prostheses may be associated with incomplete resolution of symptoms and left ventricular hypertrophy. Dr. Freed reviewed all cases using very small heart valve prostheses in Manitoba and found that in our province, primarily elderly females were receiving these valves, and they were doing fine; the devices alleviated left ventricular hypertrophy. He presented the results of his research at the American Society for Echocardiography in Orlando, Florida in April 2002. Dr. Freed has been engaged in a joint program involving a residency training in cardiac surgery and a PhD in physiology since July 1, 2000. He was a MHRC Postdoctoral Fellow for two year, 2001-2003, while working on the requirements for a PhD which he completed in less than three years. He resumed fulltime residency training in July 1, 2003, which he will complete in 2006; the first two years were completed before embarking on a PhD. Dr. Freed worked on cardiotrophin-1 (CT-1), a member of the Interleukin-6 family of cytokines for his doctoral studies. CT-1 was known to be elevated in patients with myocardial infarction, heart failure and cardiomyopathy. It was also shown to induce cardiomyocyte hypertrophy and cardiac fibroblast proliferation. An early step in wound healing following myocardial infarction is migration of fibroblasts into the area of the infarction. Dr. Freed hypothesized that CT-1 would induce cardiac fibroblast cell migration. He found, in fact, that it did induce cell migration in a dose-

dependent manner. His findings add to a growing body of data that shows CT-1 plays a central role in wound healing following myocardial infarction. Dr. Freed's research also adds to the growing body of research from **Dr. Ian Dixon's** laboratory on the turnover of myocardial fibroblasts and their derivatives, cardiac myofibroblasts. Dr. Dixon, a member of the Institute of Cardiovascular Sciences, St. Boniface General Hospital Research Centre, has focused research in his laboratory on scar tissue formation during wound healing following cardiac infarction. MHRC's support of Dr. Freed continues the pattern of MHRC support to promising young scientists; Dr. Dixon was awarded a MHRC Scholarship in 1994. Dr. Dixon was recently appointed the Myles Robinson Scholar, a grant of $25,000 annually for three years from the Myles Robinson Memorial Heart Fund.

Graduate Students Take Research Overseas

Two graduate students in the Department of Medical Microbiology, who were awarded Graduate Studentships in 2002-2003, took their research overseas during the past year. Sandra Koesters spent June and July, 2002 in Nairobi, Kenya and Victoria Jensen spent six weeks during January and February 2003 in the Department of Physiologie, Technische Universität, Dresden, Germany.

Sandra Koester spent two months in the Department of Medical Microbiology at the University of Nairobi exploring the role of immune activation in HIV disease progression. Current plans call for her to go back for another six weeks in November and December 2003. Her research in Kenya is focused on a group of sex workers who progress to HIV more rapidly than nonsex workers in the same region of Nairobi. The main hypothesis of her research is that repeated exposures to infectious agent results in higher levels of immune activation, which results in T-cell anergy (state of non-responsiveness), increased apoptosis (cell death), and overall enhanced HIV disease progression. She also has collected information on T-lymphocyte immune activation markers, apoptosis, and death receptor expression, and intracellular cytokine expression in a group of non-African women in Winnipeg, as a control. There was considerable interest in her work, which was presented at the Canadian Association for HIV/AID Research (CAHR) in Halifax in April 2003. Her finding of higher immune activation among the cohort of HIV-negative Kenyan women compared to North American women has important implications for vaccine development because vaccines being developed for HIV/AIDS are currently tested primarily on populations in developed nations. Sandra transitioned from a Masters to a PhD program during the summer of 2002. In addition, she was admitted to the CIHR/International Centre for Infectious Diseases national training program [ED. NOTE: The CIHR-ICID national training program was described in the 2001-2002 Annual Report]. Sandra received the Filmore Ryley Ade & Co. award for the outstanding journal club presentation in Medical Microbiology in the first year of her graduate program. She also was a winner of one of the Dean of Medicine Poster Awards in the Manitoba Poster Competition during the Canadian Student Health Research Forum May 13-14, 2003. Sandra's thesis supervisor is **Dr. Keith Fowke,** who was awarded a MHRC Establishment Grant in 2000. His research is concentrated

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on defining cellular immune mechanisms of HIV resistance and determining the role of immune activation and activation-induced cell death in HIV disease progression.

Victoria Jensen accepted the invitation of her thesis advisor, who had joined the National Microbiology Laboratory as Chief of Enteric Pathogens *"to come along and finish her Master's degree in Winnipeg"*. Vicki completed the requirements for a Master's degree from the University of New Hampshire but instead of returning to the United States decided that "a chance to work in outstanding facilities like those at the Canadian Science Centre for Human and Animal Health was an opportunity of a lifetime". She approached Dr. Heinz Feldmann, whose research is focused on the pathogenesis of filoviruses, about the possibility of doing her PhD studies in his laboratory. When she commenced work on her doctorate in January 2000, she was

Ms. Vicki Jensen and thesis supervisor **Dr. Heinz Feldmann**

one of only three graduate students in Medical Microbiology carrying out their research at the National Microbiology Laboratory. There are now over 25 students doing their research at NML, nearly half of the graduate students in Medical Microbiology. Vicki's research deals with the glycoproteins produced by the Ebola virus. Through the application of recombinant techniques, she was able to produce three major glycoproteins produced by the Ebola virus in sufficient quantities that they could be isolated, purified and characterized. This achievement proved to be a major breakthrough in the studies by Dr. Feldmann and others on the interaction of viral and host cell proteins and their attempt to understand the pathogenesis of filoviruses, such as Ebola and rabies. To her surprise and contrary to current belief, Vicki was unable to detect any activating effect of the Ebola glycoproteins on human primary cells, namely

monocytes and macrophages, the cells normally used to study target cell activation. However, there was the possibility that Ebola glycoproteins affect the activation of secondary target cells, namely, endothelial cells. Hence, Dr. Feldmann contacted a colleague in Germany, Dr. Hans-Joachim Schnittler, an expert on human endothelial cell research, with the prospect of Vicki performing functional studies of the glycoproteins using human endothelial cells in Dr. Schnittler's laboratory. Through the application of the sophisticated techniques available in Dr. Schnittler's laboratory, Vicki was able to show that the soluble glycoproteins of Ebola virus also did not activate secondary target cells (viz., human endothelial cells). However, she did make a very interesting discovery, namely that sGP_{12} played a protective role when tested in combination with the pro-inflammatory cytokine TNFα. This discovery dramatically changes the pathogenesis model for Ebola virus. The presentation of these findings to the "Negative Strand Viruses Meeting" in Pisa, Italy in June, 2003 created international interest in her work. In addition to the major breakthrough made in Dr. Schnittler's laboratory, Vicki brought the techniques learned there back to the NML in Winnipeg where she is introducing them to other graduate students. Vicki will present another paper on her research later this year (2003) at the American Society for Virology Meetings in Davis, California. Besides the work in Germany, she also is working with the Scripps Institute in La Jolla, California where researchers are carrying out crystallization and further characterization of the glycoproteins from Ebola virus. The MHRC graduate studentship has been extremely important to Vicki's pursuit of a PhD degree in Canada because, as an American citizen, she is ineligible for CIHR and other funding sources. Vicki was the 2002-2003 winner of the Filmore Ryley Ade & Co. award for the outstanding journal club presentation in Medical Microbiology.

NOTEWORTHY ACHIEVEMENTS .. *by MHRC Awardees*

In addition to the individuals featured in this report, several recent recipients of MHRC grants and awards have registered noteworthy achievements during the past year; achievements that reflect very favourably on Council s programs in support of research in the health sciences in Manitoba. Council is pleased to have played a role in helping launch the careers of these young investigators.

Dr. Patricia Martens, an Assistant Professor in the Department of Community Health Sciences and a researcher with the Manitoba Centre for Health Policy, recently received a CIHR New Investigator Award. Pat was awarded operating grants in 2000 and 2002 in support of her research on the effectiveness of breastfeeding strategies in rural Manitoba. [ED. NOTE: Dr. Martens and her research were featured in the 2000-2001 Annual Report.]

Laura Bilenki, a PhD student in the Department of Immunology and the recipient of a MHRC graduate studentship in 2000 and 2001, was recently awarded a CIHR Doctoral Research Award. Laura ranked among the top three percent of applicants from across Canada. She also was awarded a Manitoba Institute of Child Health graduate studentship and the Mendel & Tom Olenick Award in Immunology by the Health Sciences Foundation, both of which she declined in light of the CIHR award. Laura was a winner of one of the Dean of Medicine Poster Awards in the Manitoba Poster

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Competition during the Canadian Student Health Research Forum May 13-14, 2003. She also was a winner in the Poster Competition in 2002. Laura, whose research involves a study of the inverse correlation between infection and the development of allergic disease, in particular asthma, is a member of the National Training Program in Allergy and Asthma. Laura has had a very productive graduate program. She is the first author of a paper that has been accepted by *Clinical Immunology* and another that has been submitted to the *European Journal of Immunology*. She is currently working on two more papers that will be submitted later this year. Her thesis supervisor is Dr. Xi Yang, who holds academic appointments in both Immunology and Medical Microbiology.

Audrey Swift and **Kendra Cann** also were awarded CIHR Doctoral Research Awards. Audrey is enrolled in an Interdisciplinary PhD program chaired by Dr. Judy Chipperfield. She was supported by a MHRC graduate studentship 2001-03 during her Master's program, which was supervised by Dr. Chipperfield. Dr. Chipperfield, who holds a CIHR Investigator Award, was a 1993 recipient of a MHRC Scholarship Award. Kendra is a PhD student in Dr. Hick's laboratory in the Manitoba Institute of Cell Biology. Her research is focused on the role TLS (a gene involved in genomic stability and DNA repair) plays in the many pathways that are activated following DNA damage (e.g., double-strand breaks or interstrand cross-links induced by γ-irradiation or mitomycin C). She is currently using several approaches to identify how TLS is involved in ATM- (a gene responsible for human DNA breakage syndromes) mediated pathways of checkpoint control and repair protein activation. Kendra presented her research at three scientific meetings/conferences in 2002. At two of these, *Canadian Genetic Diseases Network* meeting in St. Sauveur, Quebec and American Association for Cancer Research special conference on *The Role of Telomeres and Telemerases in Cancer* in San Francisco, she was selected to give an oral presentation. [ED. NOTE: Dr. Chipperfield and Dr. Hicks were featured in the 2000-2001 Annual Report.]

Several graduate students who received MHRC support were winners in the Poster Competition during the Canadian Student Health Research Forum in May. **Shaohong Cheng**, who was the recipient of a MHRC Graduate Studentship in 2001, was a winner in the " Gold" category (top five posters) in the CIHR National Poster Competition (entries from across Canada). Shaohong, a PhD student in the Zoology, has been studying connexin, a gap junction protein (gap junctions are cell-to-cell communication channels) in the developing lens of zebrafish. Shaohong declined the second year of the MHRC studentship because she was awarded a NSERC Graduate Studentship. Her thesis supervisor is Dr. Gunnar Valdimarsson, who was the recipient of a 2001 MHRC establishment grant. **Sandra Koesters**, like Laura Bilenki, was a winner in the Dean of Medicine Poster Competition and **Kelly Regula** was the winner in the Cardiovascular division. Sandra, who is featured elsewhere in this report, is a PhD student in Dr. Fowke's laboratory in Medical Microbiology. Kelly completed her PhD in Dr. Kirshenbaum's laboratory in the Institute of Cardivascular Sciences. Her research dealt with the role of tumor suppressor protein in cardiac myocytes on apoptosis (cell death) in normal and diseased hearts. Kelly, who was the recipient of a MHRC graduate studentship in 1999, was subsequently awarded a CIHR Doctoral Research Award.

Shilipa Kothari, who started her MSc program in Dr. Arnold Greenberg's laboratory, recently published her findings in the prestigious cancer journal Oncogene. The paper was dedicated to Dr. Greenberg as it was the last research project he was involved with prior to his untimely death. Shilipa's discovered that the regulation of the pro-death gene, BNIP3, which is involved in hypoxia (low oxygen) induced cell death, was controlled by a transcription factor called hypoxia inducing factor-1α and identified the HIF-1α binding site in the human BNIP3 promoter. Shilipa transferred to Dr. Spencer Gibson, who was a recipient of a 2000 MHRC establishment grant, when Dr. Greenberg passed away. She is currently working in Dr. Etienne Leygue's laboratory, also the recipient of a 2000 MHRC establishment grant. [ED. NOTE: Dr. Gibson was featured in the 2001-2002 Annual Report.]

Another recipient of a MHRC studentship, **Geetangalee Modha**, also was recognized at the Canadian Student Health Research Forum. Geeta, who completed a M.Sc. degree in Dr. Yvonne Myal's laboratory, received the 2003 Manitoba Medical Service Foundation "Neaman Award" for excellence in research by a Masters student. Her research dealt with the role of insulin-like growth factor-1 receptor (IGF-1R) in normal mammary gland development. It is well established that IGF-1R plays an important role in mammary tumorigenesis but little is known about its role in normal mammary gland development. Geeta's study suggests there are specific stages of mammary development when IGF-1R is critical. She also developed an *in vitro* model system to study the regulation of IGF-1R gene expression. This model system is the first for IGF-1R and will enable researchers to study the role of IGF-1R in mammary epithelial cell proliferation. (ED. NOTE: Dr. Myal is featured elsewhere in this Report.]

THREE FORMER CHAIRS OF COUNCIL HONOURED

Three former chairs of Council were recognized for their special contributions during the past year. All three were featured in the 2002 Annual Report, which commemorated the 20th anniversary of the establishment of Council.

Dr. Allan Ronald was honoured by the Canadian Medical Association with the Starr Award, presented at CMA's 136th Annual Meeting in Winnipeg, August 17-20, 2003. The Frederic Newton Gisborne Starr Award "represents the highest award that lies within the power of the Canadian Medical Association to bestow upon one of its members". Achievement is the prime criterion in determining the recipient of the R.N.G. Starr Award. Dr. Arnold established the first Canadian post-graduate training program in infectious diseases. His vision has made Winnipeg a leading international centre in the fight against HIV, SARS and West Nile virus. Protégés of Dr. Ronald, which include Dr. Frank Plummer, Director General of Winnipeg's National Microbiology Laboratory, are leaders nationally in the fight against infectious diseases. Other Manitoba recipients of the Award include Dr. Donald Penner, and Drs. Bruce Chown and John Bowman. Dr. Ronald invited Dr. Penner to join his group studying sexually transmitted diseases in Kenya, which resulted in a long-term friendship. Dr. Penner received the Starr Award for his pioneer work on screening for cervical cancer and

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establishing the test for blood alcohol level. Dr. Chown and Dr Bowman received the Award for their work on the treatment of Rh-negative mothers, which saved the lives of thousands of infants. The Starr Award was first presented in 1936 to Drs. Banting, Best and Collip for their discovery of insulin. Other recipients of the Award include such luminaries as Dr. Hans Selye, who pioneered research into stress, and Dr. Wilder Penfield, the renowned Montreal neuroscientist.

Dr. Lyonel Isreals, who played a key role in the establishment of MHRC and was the first chair of Council, received the Peter D. Curry Chancellor's Award during the 124th annual Spring Convocation of the University of Manitoba May 29, 2003. Dr. Israels was recognized for his exceptional service to the development of the University. In addition to his role in the establishment of MHRC, he was instrumental in the establishment of the Manitoba Institute of Cell Biology, whose scientists have made an outstanding contribution to cancer research over the past 24 years.

Dr. John Hamerton, was named an officer of the Order of Canada by Her Excellency the Honourable Adrienne Clarkson, Governor General of Canada January 17, 2003. Dr. Hamerton, who is a Distinguished Professor Emeritus of the University of Manitoba, was Chair of Council from 1991 to 1998. He played an eminent role in establishing medical genetics as an independent specialty in medicine. He was the first head of human genetics at the University of Manitoba and a founding member of the Canadian College of Medical Geneticists.

PURPOSE AND OVERVIEW OF PROGRAMS

1. PURPOSE

Established by an Act of the Legislature June 30, 1982 to promote and assist basic, clinical and applied research in the health sciences in Manitoba and advise the Minister on health research matters referred to Council.

2. FUNDING

Core Programs: These programs have been funded by grants from the Department of Health and the Manitoba Lotteries Foundation. Funding for 2001/02 was $1,752,600 from the Department of Health budget.

University-Industry Program: This program is supported by a fund established with monies transferred by the Federal Government to the Province as a result of Bill C-22 (act to amend the drug patent act). Once these funds have been expended, no future funding source has been identified to allow continuation of this economically extremely important program.

Partnership Programs: The program provides partnership awards (matching funds) to individuals who have been awarded Canadian Institutes of Health Research Regional Partnership Program (CIHR-RPP) operating grants or personnel awards. Funding for this program is made available through the Department of Industry, Trade and Mines.

3. CORE PROGRAMS

Establishment Grants: Establishment Grants are provided to recently recruited faculty members who show exceptional promise to focus on establishing their research programs. The awards, for up to $100,000 to be used within a 3-year period, provide support for a variety of purposes, e.g., buy-out of teaching time, salary for research personnel (other than the applicant s salary), purchase of equipment and supplies, etc.. Council normally does not consider applications for Establishment Grants from individuals who have been independent researchers for more than four years.

Operating Grants: Investigators who hold an academic appointment at the Assistant Professor (or equivalent) rank or above in the Province for a period of not more than five years are eligible to apply. Operating grants are designed to defray the normal costs of research. Grants are awarded for either one or two years.

Postdoctoral Fellowships: A limited number of fellowships are available to qualified candidates with a doctoral degree whose prior postdoctoral research training normally does not exceed 3 years.

Graduate Studentships: A limited number of studentships are offered to qualified graduate students who are undertaking full-time Master's or Doctoral programs in the Province of Manitoba. However, in disciplines where training at the doctoral level is not available within the Province, Council will consider funding elsewhere if documented evidence is provided confirming the unavailability of Provincial training opportunities, a need in Manitoba for individuals with the training and a firm intent to return to the Province after training.

PhD Dissertation Awards: Dissertation awards are provided to students enrolled in a PhD program in population health or health-related social sciences in Manitoba who have completed all relevant course work and whose dissertation proposal has been approved by their PhD Advisory Committees. The awards, for up to $5,000, are to be used to cover costs incurred in the conduct of the students' dissertation research.

Bridge Funding: Bridge funding awards are once only, one-year awards designed to allow experienced, productive investigators, who have lost funding from a major national agency, to maintain their research operation while they attempt to regain national funding.

OPERATING & ESTABLISHMENT GRANTS

NEW ESTABLISHMENT GRANTS

Recipient, Department, Institution. Project or Field of Research.	Amount
Mayne, Michael, St. Boniface Hospital Research Centre. Identification and functional characterization of genes involved in neuroinflammation of Multiple Sclerosis and Alzheimer's disease.	**$32,483.00**
Merz, David, Department of Biochemistry & Medical Genetics, Faculty of Medicine, University of Manitoba. Regulation of cell band growth cone migrations.	**$79,810.00**
Soussi Gounni, Abdelilah, Department of Immunology, Faculty of Medicine, University of Manitoba. Neutrophils contribute to chronic inflammation that characterise the asthmatic state.	**$33,950.00**
Wigle, Jeffrey, Division of Stroke & Vascular Disease, St. Boniface Hospital Research Centre. How homeobox transription factors regulate the growth and differentiation of the blood and lymphatic vasculature system during embryonic development and disease progression.	**$28,524.00**
TOTALS	**$174,767.00**

ESTABLISHMENT GRANT RENEWALS

Recipient, Department, Institution. Project or Field of Research.	Award
Civetta, Alberto, Department of Biology, University of Winnipeg. Constraints and adaptive nucleotide changes affecting fertility in humans.	$22,500.00
Eisenstat, David D., Section of Pediatric Oncology, CancerCare Manitoba. Neuronal differentiation during development and in pediatric malignancies.	$33,000.00
Fowke, Keith R., Department of Medical Microbiology, University of Manitoba. Mechanisms of rapid disease progression in HIV infection.	$20,000.00
Gibson, Spencer B., Manitoba Institute of Cell Biology,CancerCare Manitoba. Identify MEKK1 and AKT signal tansduction pathways leading to the regulation of apoptosis.	$27,000.00

Recipient, Department, Institution. Project or Field of Research.	Award
Halayko, Andrew J., Department of Physiology,University of Manitoba. Elucidate cellular and molecular mechanisms that regulate airway myocyte phenotype and function, and to understand the significance of these mechanisms in the contribution of airway smooth muscle cells to the pathogenesis of asthma.	$21,500.00
Iwasaki, Yoshi, Faculty of Physical Education & Rec. Studies, University of Manitoba. Investigating the contributions of leisure to coping with stress and enhance health above and beyond the effects of general coping not directly associated with leisure.	$27,800.00
Leygue, Etienne, Department of Biochemistry & Medical Genetics, University of Manitoba. Mammaglobin and lipophilin related molecules in normal and tumor human breast tissue: expression, hormone regulation and fuctional analysis.	$34,600.00
Marshall, Aaron, Department of Immunology, University of Manitoba. Novel genes regulating B lymphocyte activation and differentiation.	$21,500.00
Valdimarsson, Gunnar, Department of Zoology, University of Manitoba. The role of gap junctions in normal embryonic development and in the etiology of disease.	$26,100.00
Weiler, Hope A., Department of Foods & Nutrition,University of Manitoba. Relationships among fatty acid nutrition, body composition, medical therapy and growth, bone health and development at both the whole body and biochemical level.	$24,000.00
TOTAL	**$ 258,000.00**

NEW OPERATING GRANTS

Investigator, Department, Institution. Project or Field of Research.	Award
Bruce, Sharon, Department of Community Health Sciences, University of Manitoba. Screening for Diabetes and Diabetes complications in Manitoba First Nations Communities.	**$25,000.00**
Dibrov, Pavel, Department of Microbiology, Faculty of Science, University of Manitoba. Membrane topology of the specific Na+/H+ antiporter, Vc-NhaD in Vibrio cholerae.	**$60,050.00**

Investigator, Department, Institution. Project or Field of Research.	Award
Heaman, Maureen, Faculty of Nursing,University of Manitoba. Prenatal care utilization in Manitoba: Determinants and association with preterm birth.	**$48,300.00**
Martens, Patricia, Department of Community Health Sciences, Faculty of Medicine, University of Manitoba. Sagkeeng follow-up study #2: Effect of prenatal interventions on breastfeeding initiation and duration.	**$22,450.00**
Merz, David, Department of Biochemistry & Medical Genetics, Faculty of Medicine, University of Manitoba. Genetic analysis of cell migrations and axon guidance in C. elegans.	**$53,580.00**
Soussi Gounni, Abdelilah, Department of Immunology, Faculty of Medicine, University of Manitoba. Regulation and signaling of IL-9 receptor (IL-9R) expressed by human neutrophils.	**$46,600.00**
TOTALS	**$255,980.00**

OPERATING GRANT RENEWALS

Investigator, Department, Institution. Project or Field of Research.	Award
Glazner, Gordon, Department of Pharmacology, University of Manitoba. Examination of a novel NF-kB signaling pathway in neurons.	**$47,500.00**
Iwasaki, Yoshi, Faculty of Physical Education & Recreation Studies, University of Manitoba. Contributions of leisure to coping with stress, health and psychological wellbeing.	**$45,000.00**
Mayne, Michael, Department of Pharmacology & Therapeutics, University of Manitoba. Role of HHV-6 chemokine U83 in regulating proinflammation.	**$52,000.00**
Marshall, Aaron, Department of Immunology, University of Manitoba. Role of a novel secreted peptide FDC-SP in regulation of B Lymphocytes	**$50,000.00**
Tappia, Paramjit, Institute of Cardiovascular Sciences, St. Boniface Hospital Research Ctr. Pathophysiology of phospholipase C mediated signaling during cardiac hypertrophy and heart failure.	**$43,000.00**

Investigator, Department, Institution. Project or Field of Research.	Award
Yang, Xi, Department of Medical Microbiology, University of Manitoba. Mechanisms of protection and pathology in Chlamydial infection.	**$68,250.00**
TOTAL	**$305,750.00**

REGIONAL PARTNERSHIPS AWARDS —OPERATING GRANTS

Investigator, Department, Institution. Project or Field of Research.	Award
Duckworth, Henry, Department of Chemistry, University of Manitoba. The mechanistic basis of allostery in hexameric citrate synthase and the development of specifically designed inhibitors.	**$ 52,762.00**
El-Gabalawy, Hani, Department of Internal Medicine, University of Manitoba. Synovial cell responses to hypoxia: Potential role in the pathogenesis and persistence of inflammatory arthritis.	**$ 42,640.00**
Feldman, Heinz, Department of Medical Microbiology, Canadian Science Centre for Human and Animal Health. Biosynthesis, targeting and function of hantavirus glycoproteins.	**$ 37,300.00**
HayGlass, Kent, Department of Immunology, University of Manitoba. Chemokines in immune regulation of human allergic disease.	**$ 46,314.00**
Mayne,Michael, Department of Pharmacology, St. Boniface Hospital Research Centre. Role of HHV-6 chemokine U83 in regulating pro-inflammation.	**$ 31,744.00**
Netticadan, Thomas, Department of Physiology, St. Boniface Hospital Research Centre. Sarcoplasmic Reticulum function in near failure.	**$ 32,097.00**
Nyomba, Gregoire, Department of Internal Medicine, University of Manitoba. Effects of maternal factors of postnatal glucose metabolism in the offspring.	**$ 31, 410.00**

Investigator, Department, Institution. Project or Field of Research.	Award
Yang, Xi, Department of Medical Microbiology, University of Manitoba. Host responses in Chlamydia Trachomasis infection.	**$ 59, 774.00**
TOTAL	**$160,581.00**

REGIONAL PARTNERSHIPS AWARDS — SALARY AWARDS

Investigator, Department, Institution. Project or Field of Research.	Award
Blanchard, Jamie, Department of Medical Microbiology, University of Manitoba. Salary award.	**$ 38,500.00**
Hatch, Grant, Department of Pharmacology & Therapeutics, University of Manitoba. Salary award.	**$ 38,500.00**
TOTAL	**$ 77,000.00**

PERSONNEL AWARDS

NEW POSTDOCTORAL FELLOWSHIP AWARDS

Name, Supervisor, Department, Institution. Title or Field of Study.	Amount
Jiang, Zhi Sheng (Dr. Elissavet Kardami), Institute of Cardiovascular Sciences, St. Boniface Hospital Research Centre. Investigation on the mechanism of FGF-2 carioprotection of ischemic heart.	**$35,000.00**
Visen, Neeraj Singh (Dr. Larry Hryshko), Institute of Cardiovascular Sciences, St. Boniface Hospital Research Centre. Evaluating the role of reverse mode Na+-Ca2+ exchange in cardiac physiology and pathophysiology using a novel Na+-Ca2+ exchange inhibitor, SEA0400.	**$35,000.00**
Travel	**$2,000.00**
TOTAL	**$72,000.00**

FELLOWSHIP RENEWAL AWARDS

Name, Supervisor, Department, Institution. **Title or Field of Study.**	**Amount**
Freed, Darren (Dr. Ian Dixon) Department of Physiology, St. Boniface Hospital Research Centre. Left ventricular hypertrophy.	**$35,000.00**
McKeen, Nancy (Dr. Judy Chipperfield) Department of Psychology, University of Manitoba. Emotional experience in elderly people: perceptions of control and health.	**$35,000.00**
Wang, Baiqiu (Dr. Ian M.C. Dixon) Institute of Cardiovascular Sciences, St. Boniface Hospital Research Centre. Inhibition of the Smad signal and function of cardiac fibroblasts.	**$35,000.00**
Travel	**$ 3,000.00**
TOTAL	**$108,000.00**

TRAVEL AWARD FOR EXCELLENCE IN POSTDOCTORAL RESEARCH

Name, Department, Institution.	**Amount**
Haley, Solomon, Department of Immunology, University of Manitoba.	**$ 2,000.00**
TOTAL	**$ 2,000.00**

NEW STUDENTSHIP AWARDS

Name, Supervisor, Department, Institution. **Title or Field of Study.**	**Amount**
Angelovska, Tatjana (Dr. Ian Dixon), Laboratory of Molecular Cardiology, St. Boniface Hospital Research Centre. Angiotensin II-driven kinases in the phosphorylation of Smad 2.	**$16,000.00**
Bodnarchuk, Jennifer (Dr. Warren Eaton), Department of Psychology, Faculty of Arts, University of Manitoba. Does breastfeeding accelerate crawling attainment?	**$16,000.00**

Name, Supervisor, Department, Institution. Title or Field of Study.	Amount
Cann, Kendra (Dr. Geoff Hicks), Manitoba Institute of Cell Biology, CancerCare Manitoba. Analysis of the involvement of TLS in DNA repair and genome maintenance.	**$16,000.00**
Chelikani, Prashen (Dr. P.C. Loewen), Department of Microbiology, Faculty of Science, University of Manitoba. Structure-function studies on Escerichia coli Catalase HPII.	**$16,000.00**
de Melo, Jimmy (Dr. David Eisenstat), Manitoba Institute of Cell Biology, CancerCare Manitoba. The role of Dix Homeobox genes in retinal development.	**$16,000.00**
Elliott, Alison (Dr. Jane Evans), Department of Biochemistry & Medical Genetics, University of Manitoba. Dysmorphology Genotype-phenotype correlation in the split hand/foot syndromes.	**$16,000.00**
Elzainy, Abeer (Dr. Keith J. Simons), Faculty of Pharmacy, University of Manitoba. Pharmaceutics.	**$16,000.00**
Fotheringham, Julie (Dr. Jonathan Geiger), Department of Pharmacology & Therapeutics, St. Boniface Hospital Research Centre. Neuropharmacology.	**$16,000.00**
Han, Xiaobing (Dr. Xi Yang), Department of Medical Microbiology, University of Manitoba. Causal relationship between infection and reduced allergy.	**$16,000.00**
Jensen, Victoria (Dr. Heinz Feldmann), Department of Medical Microbiology, University of Manitoba. Medical Microbiology and infectious disease (virology).	**$16,000.00**
Koesters, Sandra (Dr. Keith Fowke), Department of Medical Microbiology, University of Manitoba. Medical Microbiology — PhD program	**$16,000.00**
Lu, Biao (Dr. Patrick Choy), Department of Biochemistry and Medical Genetics, University of Manitoba. Control of arachidonate release by phopholipase A2.	**$16,000.00**
MacPherson, Paula (Dr. Brian Cox), Department of Psychology, Faculty of Arts, University of Manitoba. Clinical Psychology	**$16,000.00**
Martin, Dianna (Dr. Barbara Triggs-Raine), Department of Biochemistry & Medical Genetics, University of Manitoba. Characterization of the function of Hyaluronidase 1.	**$16,000.00**

Name, Supervisor, Department, Institution. Title or Field of Study.	Amount
Pampolina, Caroline (Dr. Archie McNicol), Department of Oral Biology, Faculty of Dentistry, University of Manitoba. Streptococcus sanguis-induces platelet activation.	**$16,000.00**
Sankaran, Deepa (Dr. Harold Aukema), Department of Human Nutritional Sciences, Faculty of Human Ecology, University of Manitoba. Effects of dietary n-3 fatty acids on murine polycystic kidney disease.	**$16,000.00**
Sawatsky, Bevan (Dr. Markus Czub), Canadian Science Centre for Human & Animal Health. Functional characterization of Nipah virus and Hendra virus glycoproteins.	**$16,000.00**
Sidhu, Ranjinder (Dr. Rajinder Bhullar), Department of Oral Biology, Faculty of Dentistry, University of Manitoba. Signal transduction, role of Ral and Phospholipase C-delta 1 interaction in platelets.	**$16,000.00**
Snow, Wanda (Dr. Tammy Ivanco), Department of Psychology, University of Manitoba. Behavioural and anatomical investigation of autims and plasticity.	**$16,000.00**
Vegh, Nicolette (Dr. Grant McClarty), Department of Medical Microbiology, University of Manitoba. Chlamydia trachomatis.	**$16,000.00**
Zhang, Weihua (Dr. Naranjan Dhalla), Institute of Cardiovascular Sciences, St. Boniface Hospital Research Centre. Role of MAP Kinase in Aorta-Caval Fistula-Induced Cardiac Hypertrophy & Heart Failure in Rats.	**$16,000.00**
TOTAL	**$336,000.00**

STUDENTSHIP RENEWAL AWARDS

Name, Supervisor, Department, Institution. Title or Field of Study.	Amount
Bilenki, Laura (Dr. Xi Yang), Department of Immunology, University of Manitoba. The inhibitionof allergy by intracellular bacterial infection.	**$16,000.00**
Clara, Ian (Dr. Cam-Loi Huynh), Department of Psychology, Faculty of Arts, University of Manitoba. The use of ordinal data modeling techniques in epidemiological and health research settings.	**$16,000.00**

Name, Supervisor, Department, Institution. Title or Field of Study.	Amount
Digby, Tyler (Dr. Asher Begleiter), Manitoba Institute of Cell Biology, CancerCare Manitoba. Effect of dietary induction of DT-Diaphorase on the anti-tumor activity of RH1.	**$16,000.00**
Kassiri, Kamrouz (Dr. Andrew J. Halayko), Department of Physiology, University of Manitoba. Airway smooth muscle phenotype: mechanisms of histamine-induced cholinergic hyperresponsiveness.	**$16,000.00**
Kothari, Shilpa (Dr. Spencer Gibson), Manitoba Institute of Cell Biology, CancerCare Manitoba. Investigation of transcriptional regulatory mechanisms of BNIP3 gene.	**$16,000.00**
Kutnikoff, Tricia (Dr. Donna Turner), Department of Community Health Sciences, University of Manitoba. The risk of colorectal cancer following gastric surgery for benign peptic ulcer disease: A population-based, historical cohort study.	**$16,000.00**
McLaren, Paul (Dr. Frances A. Plummer), Department of Medical Microbiology, University of Manitoba. Medical Microbiology.	**$16,000.00**
Modha, Geetanjalee (Dr. Yvonne Myal), Department of Pathology, University of Manitoba. Characterization of stably transfected mammary cell lines with an inducible mutant IGFIR.	**$16,000.00**
Pidlubny, Shannon (Dr. Anita Kozyrskyj), PsychHealth Centre, PZ-430. Personality versus sociodemographic predictors of mental health treatment seeking behavior in depressed adults.	**$16,000.00**
Swift, Audrey (Dr. Judith G. Chipperfield), Faculty of Physical Education & Recreation Studies, Faculty of Physical Education, University of Manitoba. The Psychological determinants of health and survival among older individuals.	**$16,000.00**
TOTAL	**$160,000.00**

2002 OPERATING GRANTS REVIEW COMMITTEE

Dr. Peter Cattini, Chair
Department of Physiology, Faculty of Medicine
University of Manitoba

Dr. Markus Czub
Canadian Science Centre for Human and Animal Health

Dr. Pavel Dibrov
Department of Microbiology, Faculty of Science
University of Manitoba

Dr. David Eisenstat
Departments of Cell Biology & Pediatrics, CancerCare Manitoba

Dr. Heinz Feldmann
Canadian Science Centre for Human and Animal Health

Dr. Keith Fowke
Department of Medical Microbiology, St. Boniface Hospital Research Centre

Dr. Spencer Gibson
Institute of Cell Biology, CancerCare Manitoba

Dr. Yuewan Gong
Dept. of Internal Medicine, Faculty of Medicine
University of Manitoba

Dr. Geoff Hicks
Manitoba Institute of Cell Biology, CancerCare Manitoba

Dr. Nasrin Mesaeli
Dept. of Biochemistry & Medical Genetics
St. Boniface Hospital Research Ctr.

Dr. Donald Smyth
Department of Pharmacology, Faculty of Medicine
University of Manitoba

2002 PERSONNEL REVIEW COMMITTEE

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Institute of Cell Biology, CancerCare Manitoba

Dr. Judy Anderson
Department of Anatomy & Cell Science, University of Manitoba

Dr. Alberto Civetta
Department of Biology, University of Winnipeg

Dr. Hani El-Gabalawy
Department of Internal Medicine, University of Manitoba

Dr. Elissavet Kardami
Department of Human Anatomy & Cell Science,
St. Boniface Hospital Research Centre

Dr. Lorrie Kirshenbaum
Department of Physiology, St. Boniface Hospital Research Centre

Dr. Henry Mantsch
Institute for Biodiagnostics, National Research Council

Dr. Helene Perreault
Department of Chemistry, University of Manitoba

Dr. Gunnar Valdimarsson
Department of Zoology, University of Manitoba

Dr. Xi Yang
Department of Medical Microbiology, University of Manitoba

Dr. Sheryl Zelenitsky
Faculty of Pharmacy, University of Manitoba

2002 SOCIAL/POPULATION HEALTH REVIEW COMMITTEE

Dr. Juliette Cooper, Chair
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Dr. Sharon Bruce
Department of Community Health Sciences, University of Manitoba

Dr. Brian Cox
Department of Psychiatry, PsychHealth Centre

Dr. Lawrence Elliott
Department of Community Health Sciences, University of Manitoba

Dr. Don Fuchs
Faculty of Social Work, University of Manitoba

Dr. Maureen Heaman
Faculty of Nursing, University of Manitoba

Dr. Patricia Martens
Department of Community Health Sciences, University of Manitoba

Dr. Barbara Payne
Department of Sociology, University of Manitoba

Dr. Michelle Porter
Faculty of Physical Education, University of Manitoba

Dr. Bruce Tefft
Department of Psychology, University of Manitoba

2001 - 2002 FISCAL EXPENDITURES OVERVIEW

TOTAL EXPENDITURES

	AMOUNT	%
TOTAL	**$2,102,253**	**100.0**
Grants and Awards	$ 1,954,367	93.0
Administration	$ 147,886	7.0

ADMINISTRATION

	AMOUNT	%
TOTAL	**$147,886**	**100.0**
Salaries	$121,440	82.1
Supplies & Office Maintenance	$ 9,416	6.4
Miscellaneous	$ 17,030	11.5

GRANTS AND AWARDS

	#	AMOUNT	%
TOTAL		**$1,954,367**	**100.0**
Establishment Grants	14	432,767	22.1
Postdoctoral Awards	5	182,000	9.3
Studentship Awards	31	496,000	25.4
Operating Grants	12	561,730	28.8
Regional Partnership Grants	10	237,581	12.2

THE MANITOBA HEALTH RESEARCH COUNCIL

MANAGEMENT REPORT

The accompanying financial statements are the responsibility of management and have been prepared in accordance with generally accepted accounting principles. In management's opinion the financial statements have been properly prepared and of necessity include some amounts based upon management's best estimates and judgements.

As management is responsible for the integrity of the financial statements, management has established systems of internal control to provide assurance that assets are properly accounted for and safeguarded from loss.

Bruce E. McDonald

B.E. McDonald, Ph.D, FCIFST
Executive Director
June 11, 2003

BDO

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Auditors' Report

To the Legislative Assembly of Manitoba:

We have audited the statement of financial position of **Manitoba Health Research Council** as at March 31, 2003 and the statements of operations and fund balances and cash flows for the year then ended. These financial statements are the responsibility of the organization's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the organization as at March 31, 2003 and the results of its operations and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

The comparative figures have been reported on by other auditors.

BDO Dunwoody LLP

Chartered Accountants

Winnipeg, Manitoba
June 10, 2003

BDO Dunwoody LLP *is a Limited Liability Partnership registered in Ontario*

MANITOBA HEALTH RESEARCH COUNCIL
Statement of Financial Position

March 31	2003	2002
Assets		
Current Assets		
Cash and bank	$ 35,255	$ 16,878
Short-term investments		
Market Value 2003 - $701,801(2002 - $1,318,192)	699,319	1,276,569
Accounts receivable	589	-
Accrued interest receivable	10,184	57,649
Prepaid expenses	1,401	1,557
Deposits	500	500
	747,248	1,353,153
Capital assets (Note 2)	5,333	4,097
	$ 752,581	$ 1,357,250
Liabilities and Fund Balances		
Current Liabilities		
Accounts payable and accrued liabilities	$ 7,946	$ 7,159
Research grants payable	192,835	721,915
	200,781	729,074
Commitments (Note 4)		
Fund Balances		
General Research Fund (Page 4)	140,349	131,751
Regional Partnerships Program Fund (Page 4)	7,513	106,022
Strategic Health Research Development Fund (Page 4)	403,938	390,403
	551,800	628,176
	$ 752,581	$ 1,357,250

Approved on behalf of the Board:

Director

Director

The accompanying summary of significant accounting policies and notes are an integral part of these financial statements.

MANITOBA HEALTH RESEARCH COUNCIL
Statement of Operations and Fund Balances

For the year ended March 31	General Research Fund	Regional Partnership Fund	Strategic Health Research Development Fund	2003 Total	2002 Total
Revenue					
Province of Manitoba Grants	$ 1,752,600	$ 181,833	$ -	$ 1,934,433	$ 2,618,892
Grants Returned/Rescinded	25,484	-	-	25,484	89,005
Interest	13,925	23,711	28,324	65,960	69,922
	1,792,009	205,544	28,324	2,025,877	2,777,819
Expenditures					
Administration (Page 10)	110,914	22,183	14,789	147,886	136,962
Personnel awards	678,000	77,000	-	755,000	819,000
Research grants	994,497	204,870	-	1,199,367	1,954,379
	1,783,411	304,053	14,789	2,102,253	2,910,341
Excess (deficiency) of revenue over expenditures	8,598	(98,509)	13,535	(76,376)	(132,522)
Fund balances, beginning of year	131,751	106,022	390,403	628,176	760,698
Fund Balances, end of year (Page 3)	$ 140,349	$ 7,513	$ 403,938	$ 551,800	$ 628,176

The accompanying summary of significant accounting policies and notes are an integral part of these financial statements.

MANITOBA HEALTH RESEARCH COUNCIL
Statement of Cash Flows

For the year ended March 31	2003	2002
Cash Flows from Operating Activities		
Deficiency of revenue over expenditures for the year	$ (76,376)	$ (132,522)
Adjustments for		
Amortization of capital assets	890	1,024
	(75,486)	(131,498)
Changes in non-cash working capital balances		
Short-term investments	577,250	(151,647)
Accounts receivable	(589)	282,146
Accrued interest receivable	47,465	(6,426)
Prepaid expenses	157	(1,557)
Accounts payable and accrued liabilities	787	(14,849)
Research grants payable	(529,080)	61,700
	20,504	37,869
Cash Flows from Investing Activities		
Purchase of capital assets	(2,127)	-
Cash Flows from Financing Activities		
Non-current research grants payable	-	(28,500)
Increase in cash and cash equivalents during the year	18,377	9,369
Cash, beginning of year	16,878	7,509
Cash, end of year	$ 35,255	$ 16,878
Supplementary Information:		
Interest received	$ 89,377	$ 63,494

The accompanying summary of significant accounting policies and notes are an integral part of these financial statements.

MANITOBA HEALTH RESEARCH COUNCIL
Summary of Significant Accounting Policies

March 31, 2003

Financial Instruments

The organization's financial instruments consist of cash, accounts receivable, short-term investments, and accounts payable. Unless otherwise noted, it is management's opinion that the organization is not exposed to significant interest, currency or credit risks arising from these financial instruments. The fair values of these financial instruments approximate their carrying values, unless otherwise noted.

Short-Term Investments

Short-term investments are stated at the lower of cost and market value.

Capital Assets

Capital assets are stated at cost less accumulated amortization. Amortization based on the estimated useful life of the asset is calculated as follows:

Office equipment	20% diminishing balance basis
Computer equipment	20% diminishing balance basis

Fund Accounting

The Manitoba Health Research Council follows the restricted fund method of accounting for contributions.

The Strategic Health Research Development Fund reports only restricted resources that are used for qualified research and development projects in the health industry sector in Manitoba. Grants awarded to qualified researchers must be matched by private sector grants awarded to those researchers. Grants and awards are recorded as an expenditure in the year the commitment is made regardless of when the grant will be paid out.

The General Research Fund reports only restricted resources that are used for research purposes. General research grants are charged to expenditures in the year the funding is committed for, by Council. Research grants returned to or rescinded by the Council are recorded as revenues when received or rescinded.

Regional Partnership awards are charged to expenditures when funding is received from the Province of Manitoba. Regional partnership awards returned to or rescinded by the Council are recorded as revenues when received or rescinded.

Interest Revenue

Interest revenue is allocated proportionately to the Funds on the basis of monthly Fund balances.

Personnel Awards

Personnel awards and their renewals are charged to expenditures when funding is approved by Council.

MANITOBA HEALTH RESEARCH COUNCIL
Summary of Significant Accounting Policies

March 31, 2003

Administrative Expenditures

Administration expenses are allocated 75% to the Research Fund, 15% to the Regional Partnership Fund and 10% to the Strategic Health Research Development Fund.

March 31, 2003

1. Entity Definition

The Manitoba Health Research Council was established by The Manitoba Health Research Council Act to promote and assist basic, clinical and applied research in the health sciences in Manitoba. The Manitoba Health Research Council is a registered charity and is exempt from tax under the Income Tax Act.

2. Capital Assets

	2003		2002	
	Cost	Accumulated Amortization	Cost	Accumulated Amortization
Office equipment	$ 6,375	$ 4,025	$ 6,375	$ 3,437
Computer equipment	4,642	1,659	2,515	1,356
	$ 11,017	$ 5,684	$ 8,890	$ 4,793
Net book value		$ 5,333		$ 4,097

3. Related Party Transactions

Manitoba Health Research Council is related to all Province of Manitoba departments and agencies. During the year, the Council had the following transactions with related organizations:

Grant Revenue	$ 1,934,433
Office Rent at not charge - University of Manitoba	

These transactions are in the normal course of operations and are measured at the exchange amount, which is the amount of consideration established and agreed to by the related parties.

4. Commitments

The Manitoba Health Research Council has committed grants and awards under the Research Fund and the RPP Fund as follows:

Year	General Research Fund	Regional Partnership Fund	Total
2004	$ 882,013	$ 495,286	$ 1,377,299
2005	893,724	300,967	1,194,691
2006	47,412	-	47,412
	$ 1,823,149	$ 796,253	$ 2,619,402

Commitments of future years of the General Research Fund and Regional Partnership Fund are not recorded as an expenditure in the year of commitment, they are recorded as paid.

These commitments are funded as follows:

Current General Research Fund Balance	$ 140,349
Current Regional Partnership Fund Balance	7,513
Future provincial government funding	2,471,540

5. Economic Dependence

The Manitoba Health Research Council relies almost entirely on grants from the Province of Manitoba.

MANITOBA HEALTH RESEARCH COUNCIL
Schedule of Administrative Expenses

For the year ended March 31	2003	2002
Accounting and audit	$ 3,200	$ 3,500
Amortization	890	1,024
Bank charges and interest	160	279
Council and committee expenses	4,922	1,604
Delivery	1,757	1,547
GST expense	791	350
Insurance	4,017	2,756
Office equipment	-	414
Printing, stationery and office supplies	8,341	4,421
Repairs and maintenance	1,075	1,004
Salaries and benefits	121,440	118,803
Telephone	1,293	1,260
	$ 147,886	$ 136,962